

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A package for an imager integrated circuit chip, the imager integrated circuit chip having a bond pad for communicating an electrical signal to or from the imager integrated circuit chip, the package comprising:

a printed circuit board comprising:

multiple routing layers including a plurality of bond leads and a plurality of package leads, wherein at least one bond lead and at least one package lead is electrically coupled to the at least one bond lead; and

at least one of the multiple routing layers comprises a ground plane;

the imager integrated circuit chip disposed on the printed circuit board and coupled to at least one of the plurality of bond leads to thereby allow [[:]]]

~~the bond pad coupled to the at least one bond lead, allowing communication of the electrical signal between the at least one package lead and the imager integrated circuit chip; and~~

an optical cover, disposed on the printed circuit board, that, with the printed circuit board, encapsulates the imager integrated circuit chip.

2. (Original) The package of claim 1, wherein the printed circuit board further comprising:

a retaining structure disposed on the printed circuit board around the imager integrated circuit chip, the retaining structure and the printed circuit board forming a recess in which the imager integrated circuit chip is mated to the printed circuit board; and

the optical cover comprising a filler material deposited in the recess.

3. (Currently Amended) The package of claim 2 wherein the filler material comprises a curable resin within the recess to form a hardened protective coating over the imager integrated circuit chip.

4. (Canceled)

5. (Original) The package of claim 1 wherein the at least one package lead is arranged on a periphery of the printed circuit board.

6. (Original) The package of claim 1, wherein the at least one package lead comprises a plurality of package leads arranged in an array.

7-8 (Canceled)

9. (Original) The package of claim 1 wherein the electrical signal is routed to reduce capacitive or inductive interference.

10. (Currently Amended) A chip carrier package for an imager integrated circuit chip, the imager integrated circuit chip having a plurality of electrical pads, the package comprising:

a preformed package base comprising:

an insulating substrate comprising multiple routing layers including a plurality of bond leads and a plurality of package leads electrically coupled to the plurality of bond leads, wherein at least one bond lead and at least one package lead is electrically coupled to the at least one bond lead; and

at least one of the multiple routing layers comprises a ground plane;

a plurality of bond leads disposed on the insulating substrate, and

a plurality of package leads electrically coupled to the plurality of bond

leads; and

the imager integrated circuit chip disposed on the preformed package base; and

an optical material disposed on the imager integrated circuit chip as a that cures to form a hardened protective coating over the imager integrated circuit chip.

11. (Original) The chip carrier package of claim 10, further comprising :
a retaining structure surrounding the imager integrated circuit chip, the retaining structure and the preformed package base forming a recess in which the imager integrated circuit chip is disposed on the preformed package base; and
the optical material being deposited in the recess before it has cured.

12. (Original) The chip carrier package of claim 10 wherein the optical material has light transmission characteristics.

13 – (Canceled)

14. (Original) The chip carrier package of claim 10 wherein at least one of the plurality of package leads is arranged on a periphery of the preformed package base.

15. (Original) The chip carrier package of claim 10, wherein the preformed package base supports the plurality of package leads in an array.

16- 17. (Canceled)

18. (Currently Amendment) An imager component comprising:

a printed circuit board comprising a plurality of bond leads and a plurality of package leads a printed circuit board comprising

a) multiple routing layers, a plurality of bond leads and a plurality of package leads;

b) at least one of the multiple routing layers comprising a ground-plane,

c) at least one of the plurality of bond leads coupled to at least one of the plurality of package leads;

at least one of the plurality of bond leads coupled to at least one of the plurality of package leads;

an imager integrated circuit chip coupled to the printed circuit board and to the at least one of the plurality of bond leads; and

an optical material deposited on the imager integrated circuit chip and cured to protect the imager integrated circuit chip from an external environment.

19. (Original) The imager component of claim 18 further comprising a containment structure engaging the printed circuit board, the containment structure and the printed circuit board forming a recess in which the imager integrated circuit chip is disposed on the base insulating substrate.

20. (Original) The imager component of claim 19 wherein the optical material has a light transmission characteristic.